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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,484	04/19/2004	John Y. Chai	10677-010-999	4406
20583	7590	02/23/2005	EXAMINER	
JONES DAY 222 EAST 41ST ST NEW YORK, NY 10017			WILSON, KATINA M	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/828,484

Applicant(s)

CHAI ET AL.

Examiner

Katina M. Wilson

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 45-90 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 45, 46, 54-63, 74-85 and 87-90 is/are rejected.
- 7) ☒ Claim(s) 47-53, 64-73 and 86 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 45, 46, 54-63, 74-85, 87-90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Piatkowski, Jr. 4010650 in view of Shang-Chun (5928503).

As to claim 45, 46, 54, 55, 58, 59, 74, 75, 82, 85, 87, 90, Piatkowski teaches an apparatus for generating an electrical signal indicative of level 12 of a liquid 14 stored in a reservoir 10. The apparatus includes a first and second probes 18, 20 spaced from one another and extending into the reservoir. Each of the probes includes a metal electrode 22, 30 surrounded by dielectric material. The liquid to be measured contacts the material, but not the electrodes. Alternating voltage is applied across the electrodes and the impedance there between is sensed. The impedance between the electrodes varies as a function of the level of the liquid in the reservoir. The level of the liquid in the reservoir is displayed on gauge 94, where the gauge shows if liquid has been added or consumed from the reservoir (fig. 4, abstract). While Piatkowski, Jr. does not suggest using his device for monitoring the level of a container containing filtered water, his disclosure is directed to monitoring liquid level, which inherently encompasses containers containing filtered water. Therefore, to employ Piatkowski Jr for monitoring

the level of filtered water within a container would have been obvious to one of ordinary skill in the either filtered or unfiltered fluid level.

As to claims 56, 60, 62, 76, Piatkowski does not teach one or more additional electrode pairs and where the electrodes extend the length of the container. However, Shang-Chun teaches one additional electrode pair in figure 1 and 2, level sensor 6 has four electrodes and the electrodes extend into the reservoir. It would have been obvious to one skilled in the art at the time of the invention was made to incorporate one additional electrode pair to a reservoir, tank, or container to measure the waste water level, at a predetermine level and/or actual level (col. 2-3, detailed description).

Claims 57-58, 61, 77, 84, 89 are similar to claim 46. Alternating voltage is applied across the electrodes and the impedance there between is sensed. The impedance between the electrodes varies as a function of the level of the liquid in the reservoir and displayed on the gauge.

As to claims 62 and 63, official notice is taken that the use of multiple electrodes pairs to monitor fluid level is well established in the art. The use of multiple pairs of electrodes is predicated on the size and configuration of the container and on the degree of accuracy required.

As to claim 78, Shang-Chun shows a reference electrode in sensor 6 located in the water a predetermined position, which may be associated with any other electrode. Shang-Chun does not state or suggest that the electrodes are paired in a certain matter.

As to claims 79, 81, Shang-Chun shows the electrodes to extend in the reservoir at different/unique lengths to determine the level in the container (fig 1 and 2).

Claim 80 is similar to the combination of claims 78-79. Shang-Chun continues to teach the control unit determines the level in the container.

As to claim 83 and 88, an operator can determine the amount of material/water consumption from the change in the level on the gauge.

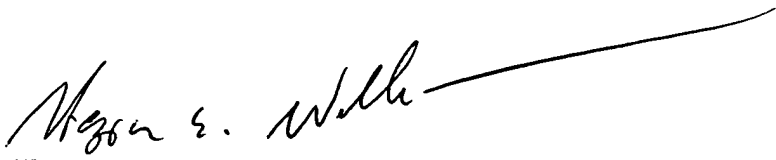
***Allowable Subject Matter***

3. Claims 47-53, 64-73, 86 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katina M. Wilson whose telephone number is 571-272-2209. The examiner can normally be reached on Mon-Fri 6:15am-2:00pm, off on Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

  
HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800